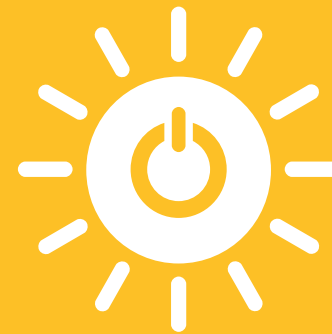




# 7 AFFORDABLE AND CLEAN ENERGY



7 AFFORDABLE AND CLEAN ENERGY



GOAL



CHALLENGES



DATA



ACTIONS



### **Ensure access to affordable, reliable, sustainable and modern energy**

A global economy dependent on fossil fuels and an increase in greenhouse-effect gas emissions are causing drastic changes in our climate system, the consequences of which have a clear impact on the planet as a whole.

In order to ensure universal access to affordable electricity by 2030, we must invest in clean energy sources, such as solar energy, wind power and thermal energy, and expand the infrastructure and improve technology in order to have clean energy sources in all developing countries is a crucial goal that can stimulate growth and in turn help the environment.

By 2030, the goal is to ensure universal access to affordable, reliable and modern energy services, and to substantially increase the percentage of renewable energy in respect of energy sources as a whole. Doubling the global energy efficiency improvement rate is another of the challenges of this goal.

To achieve this, we must increase international co-operation in order to facilitate access to research and non-polluting energy technologies, including renewable energy sources. Promoting investment in non-polluting energy

infrastructures and technologies is another of the actions that need to be carried out in order to achieve this.

### **Affordable, reliable and sustainable energy**

Energy is a determining element for economic development. We depend on it in most of our daily activities. When the cost of energy is high, this involves an additional burden for families, which can lead to the well-known feature of energy poverty, with serious repercussions on welfare and balanced development, especially of the new generations.

In the case of companies, non-competitive energy costs can lead to difficulties to offer prices comparable to those of countries. This fact conditions the development of our companies and favours the disappearance of jobs, eventually causing general impoverishment.

Energy constitutes a strategic factor for the harmonious development of society and the welfare of people. There are many factors in respect of which we can act: an open competition system, ensuring reasonable prices for consumers, a clear diversification of energy sources avoiding any harmful dependence or fluctuations, and clear proposals for energy efficiency and renewable sources.

In some of these aspects, Auren's services contribute to an optimal use of energy. We provide energy auditing services (now compulsory for companies with more than 250 employees) and help improve them through energy efficiency support programmes. In addition, our logistics service optimisation programmes facilitate an improvement in the distribution process, one of the value chain elements most affecting the consumption of energy, especially coming from fossil wastes.

The implementation of environmental management systems, our reports in relation to controlling packing and packaging (ECOEMBES) or support in preparing or verifying Sustainability Reports are also examples of services and actions that contribute to improving this key aspect for society.

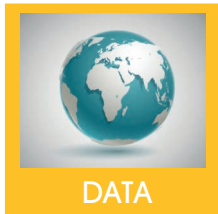
As a firm, we are proud to contribute to having energy that is more affordable and less polluting in the future, ensuring a better environment for future generations.



The targets proposed by the United Nations in the 2015-2030 Agenda for Sustainable Development included in this goal are the following, by 2030:

- Ensure universal access to affordable, reliable and modern energy services.
- Increase substantially the share of renewable energy in the global energy mix.
- Double the global rate of improvement in energy efficiency.
- Enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.
- Expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support.





Information obtained from the United Nations:

- 13 per cent of the global population still lacks access to modern electricity.
- 3 billion people rely on wood, coal, charcoal or animal waste for cooking and heating.
- Energy is the dominant contributor to climate change, accounting for around 60 per cent of total global greenhouse gas emissions.
- Indoor air pollution from using combustible fuels for household energy caused 4.3 million deaths in 2012, with women and girls accounting for 6 out of every 10 of these.
- In 2015, 17.5% of total final energy consumption was from renewable energies.
- 89% of people in the whole world are connected to electricity at some level. Still, this means that 840 million people worldwide do not yet have access, and 573 million of them live in sub-Saharan Africa.





## TYPES OF RENEWABLE ENERGIES

The different types of renewable energies include the following:

- **Hydroelectric power.** This is produced by falling water. Hydroelectric power stations in dams use the water retained in high-altitude lakes or reservoirs. When falling, the water passes through hydroelectric turbines, which transfer the energy to a generator, which turns it into electrical power.
- **Wind power.** This is the kinetic energy produced by the wind. Through wind turbines or windmills, air currents are used and turned into electricity. Wind power includes offshore wind power, where offshore wind farms are set up in the high seas.
- **Solar energy.** This type of energy is provided by the sun in the form of electromagnetic radiation (mainly light, heat and ultraviolet rays). The use of the sun's energy can result in thermal solar energy (used for producing low-temperature hot water for sanitary use and heating), photovoltaic solar energy (through semiconductor panels that change with solar radiation), etc.


- **Geothermal energy.** This is one of the least known sources of renewable energy and is stored under the Earth's surface in the form of heat related to volcanoes, thermal waters, fumaroles and geysers. Therefore, it is energy from inside the Earth.
- **Tidal energy.** The movement of the seas and tides is capable of generating clean electrical power. If we are speaking specifically of the power produced by waves, we would be producing wave energy.


Another type of power making use of the thermal energy of the sea, based on the difference in temperatures between the surface and deep seas, is known as sea thermal power.

- **Biomass energy.** This comes from the use of organic animal and vegetal matter or from agro-industrial waste. It includes waste from agricultural, farming and forestry activities, as well as sub-products from agri-food industries and from wood transformation.





In the following link, *ECOINVENTOS*  explains 25 alternatives available to you as a consumer for contracting renewable energy in Spain.

*The renewable energy report*  emphasises 10 recommendations for a future with 100% renewable energies. Although you might think that you as a citizen have little to say in this respect, read each of them carefully and you will see how every little counts, something that is essential for achieving the larger goals:

1. **CLEAN ENERGY:** promoting only the most efficient products. Developing new and existing sources of renewable energy to promote sufficient clean energy for all by 2050.
2. **ELECTRICITY NETWORKS:** sharing and exchanging clean energy through networks and the electricity trade, making better use of energy sustainable resources in different areas.
3. **ACCESS:** bringing an end to energy poverty, providing clean electricity and promoting sustainable practices such as, for example, efficient heaters for all in developing countries.

4. **INVESTMENT:** investing in renewable energies, clean energy, and efficient products and buildings.
5. **FOOD:** stopping food wastage. Choosing food products supplied efficiently and sustainably, thus freeing up land space for nature, reconversion to forests and the responsible generating of biofuels. Everyone in the world has the same right to a healthy consumption of protein in their diet. For this to happen, the richest countries have to eat less meat.
6. **MATERIALS:** reducing, reusing and recycling are necessary actions in order to minimise loss and save on energy. Developing long-lasting materials and avoiding the consumption of things we don't need.
7. **TRANSPORT:** providing incentives for encouraging a greater use of public transport and reducing the distances between people and goods. Promoting the electrification of vehicles wherever possible and supporting research into conversion into hydrogen and other alternative fuels for transport by sea and air.



8. TECHNOLOGY: developing bilateral and multilateral action plans on a national level, in order to promote research and development into matters of energy efficiency and renewable energies.
9. SUSTAINABILITY: developing and applying strict criteria of sustainability ensuring the compatibility of the renewable energy within the environment and the development goals.
10. AGREEMENTS: supporting ambitious agreements on climate and energy issues, in order to reinforce and create capacities, and to promote global co-operation in renewable energy and energy efficiency efforts.





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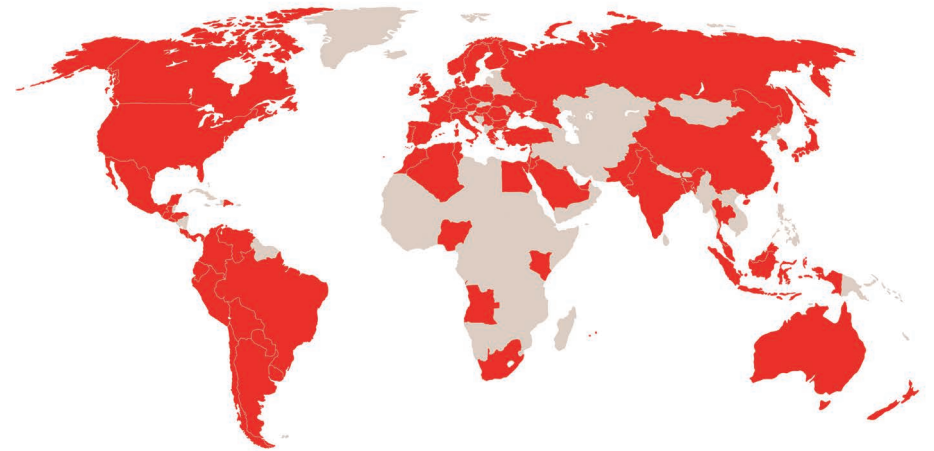
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